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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,604	11/20/2001	Tai-Yan Kam	DEE-PT014	1526
3624	7590	01/11/2006	EXAMINER	
VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			MICHALSKI, JUSTIN I	
			ART UNIT	PAPER NUMBER
			2644	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/989,604	Applicant(s) KAM, TAI-YAN	
	Examiner Justin Michalski	Art Unit 2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 5-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-4 in the reply filed on 22 August 2005 is acknowledged.
2. This application contains claims 5-18 drawn to an invention nonelected in response filed 22 August 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 12, the term "corrugated cloth type" renders the claims indefinite because the claims include elements not actually disclosed (those encompassed by "like"), thereby rendering the scope of the claims unascertainable. See MPEP 2173.05(d). The phrase "corrugated cloth type support" is indefinite. On 3 February 2006, attorney of record Robert Ballarini, authorized an examiners amendment to delete the word "type" after "corrugated cloth" in claim 1, line 12. However, after further search, the claims stand as stated below. Although claim 1 has been examined with the

word "type" deleted after "corrugated cloth", the applicant is requested to make a formal amendment to delete the word "type" in claim 1, line 12 in response to this office action.

Claim Rejections - 35 USC § 103

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azima et al. ("Azima") (US Patent Application Publication 2002/0027999 A1) in view of Sakamoto et al. ("Sakamoto") (US Patent 5,818,950).

Regarding Claim 1, Azima discloses a method of making a transparent panel-form loudspeaker including a rectangular transparent panel with length a and width b under the condition that b is less than or equal to a to be capable of sustaining flexural vibration over the area of the panel, said method including steps of: (a) analyzing the distributions of the modal parameters, which include natural frequencies, modal amplitudes, mode shapes and phase angles, in the modal analysis of said transparent panel (paragraph 30) which is driven by a preselected number of transducers (Fig. 10, transducer 9) to generate flexural vibration of said panel and supported peripherally by a flexible suspension device consisting of several discrete supports (1 and 3), said modal parameters varying according to values of the design parameters of said transparent panel-form loudspeaker including the ratio of elastic modulus to density of the material used to fabricate said transparent panel, the ratio of length to thickness of said panel, locations of said transducers and said discrete supports on the peripheral edge of said transparent panel (paragraph 73); (b) analyzing a sound pressure level spectrum generated by said transparent panel-form loudspeaker, said sound pressure

level spectrum also varying according to values of said design parameters of said panel-form loudspeaker (paragraph 30); (c) identifying the favorable modal parameters which are beneficial to sound radiation and the unfavorable modal parameters which have adverse effects on sound radiation (paragraph 33-35); (d) selecting values of said design parameters resulting in suppressing the adverse effects of the unfavorable modal parameters, magnifying the beneficial effects of the favorable modal parameters, and achieving a desired sound pressure level spectrum over a specific frequency range (paragraph 33-35); and (e) making said transparent panel of said panel-form loudspeaker with said selected values of said design parameters.

Azima does not disclose the use of a corrugated cloth support. Sakamoto discloses a panel speaker comprising a corrugated suspension made of woven cloth (Fig. 6A, support e) in order to support the speaker diaphragm (Col. 5, lines 45-60). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a corrugated cloth suspension in order to support the speaker diaphragm as disclosed by Sakamoto.

Regarding Claim 2, Azima further discloses parameters of the transparent panel-form loudspeaker are selected via a two-level optimization approach in which the ratios of elastic modulus to density and length to thickness of the transparent panel are selected to maximize the sound pressure levels at some specific frequencies for the transparent panel-form loudspeaker at the first level of optimization (paragraphs 73-77) while the locations of said transducers and said discrete supports of the flexible suspension device on the peripheral edge of the transparent panel are selected to make

the panel-form loudspeaker to produce a more uniform distribution of sound pressure level in a specific frequency range at the second level of optimization (paragraph 55).

Regarding Claim 3, it would have been a matter of design choice to select a ratio of elastic modulus to density greater than 80 and less than 180 GPa/(g/cm³) and said ratio of length to thickness greater than 80 and less than 600.

Allowable Subject Matter

6. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Michalski whose telephone number is (571)272-7524. The examiner can normally be reached on M-F 7-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571)272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JIM


January 4, 2006


HUYEN LE
PRIMARY EXAMINER